



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,112	02/01/2002	Curtis E. Adams	00069CON	9977

7590

09/27/2004

Michelle B. Lando, Esq.
CABOT CORPORATION
Law Department
157 Concord Road
Billerica, MA 01821

EXAMINER

SHOSHO, CALLIE E

ART UNIT PAPER NUMBER

1714

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

10/062,112

Applicant(s)

ADAMS, CURTIS E.

Examiner

Callie E. Shosho

Art Unit

1714

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 29 July 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☒ A Notice of Appeal was filed on 29 July 2004. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☒ Applicant's reply has overcome the following rejection(s): Rejection of record utilizing Yu et al. (U.S. 6,494,943).
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attachment.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: 3 and 29.Claim(s) rejected: 1,2,4-28 and 30.

Claim(s) withdrawn from consideration: _____

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☒ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). 11/7/03.
10. ☐ Other: _____

Callie E. Shosho
Primary Examiner
Art Unit: 1714

Attachment to Advisory Action

1. Applicant's response filed 7/29/04 has been fully considered. The response overcomes the rejection of record utilizing Yu et al. (U.S. 6,494,943) as set forth paragraph 6 of the office action mailed 1/29/04. However, with respect to the remaining rejections of record, the response is not persuasive.

Specifically, applicant argues that Suzuki et al. (U.S. 6,153,001) do not disclose ink having specific combination of modified pigment comprising pigment having attached at least one functional group and a polyvalent salt wherein the functional group is anionic when the salt comprises a polyvalent cation or is cationic when the salt comprises a polyvalent anion.

Applicant argues that there is no disclosure in Suzuki et al. that any of the pH agents, in particular, the two that can be classified as salts having a polyvalent ion should or could be used in combination with any of the modified pigments.

However, firstly, it is noted that Suzuki et al. do explicitly disclose using modified pigment having cationic functional group and salt having polyvalent anion as required in the present claims. Col.7, lines 35-38 of Suzuki et al. discloses that the pigment possesses attached functional groups including cationic groups while col.13, line 16 of Suzuki et al. discloses salt having polyvalent anion. Thus, an ink comprising both modified pigment and polyvalent salt is clearly encompassed by the disclosure of Suzuki et al.

With respect to the modified pigment, it is noted that Suzuki et al. only discloses 3 types of hydrophilic functional groups that are attached to the pigment, namely, nonionic, cationic, and anionic, which is not a large list from amongst which the presently claimed pigment must be selected. With respect to the salt having polyvalent ion, it is noted that Suzuki et al. disclose the

use of 3 types of pH regulating agents, namely, acids, bases, and pH buffers wherein salts having polyvalent anion are 2 of the pH buffers disclosed by Suzuki et al. Again, this is not a large list from amongst which to choose the presently claimed salt having polyvalent anion. Given that Suzuki et al. disclose small number of modified pigments from which to choose the claimed pigment and small number of pH regulating agents from which to choose the claimed salt, it is the examiner's position that the presently claimed combination of modified pigment having cationic functional group and salt having polyvalent anion is properly disclosed by Suzuki et al. Given that there is not a vast number of either modified pigment or pH regulating agent from amongst which to choose the presently claimed pigment and salt, the presently claimed combination can at once be envisaged from Suzuki et al. Further, given that the presently claimed modified pigment and salt are each explicitly disclosed by Suzuki et al., it is the examiner's position that hindsight or picking and choosing has not been utilized to arrive at the present invention. Rather, Suzuki et al. is an anticipatory reference because it already discloses the claimed combination of modified pigment and polyvalent salt.

Applicant cites *In re Baird* 29 USQ2d 1550 (Fed. Cir. 1994). With respect to *Baird*, it is noted that in *Baird*, the courts held that while the reference disclosed generic formula which encompasses the claimed specific compound, there was no suggestion to select out the specific compound from amongst the vast number of compounds encompassed by the generic formula. However, with respect to Suzuki et al., it is the examiner's position that the situation is different. Specifically, Suzuki et al. do explicitly recite the claimed modified pigment and salt. Further, as discussed above, there is not a vast number of compounds disclosed in Suzuki et al. from amongst which to choose the claimed modified pigment and salt. Additionally, it is noted that

Suzuki et al. is used in a 35 USC 102 anticipation rejection not a 35 USC 103 obviousness rejection.

Further, while it agreed that there are no examples in Suzuki et al. that utilize combination of modified pigment comprising pigment having attached at least one functional group and a polyvalent salt wherein the functional group is anionic when the salt comprises a polyvalent cation or is cationic when the salt comprises a polyvalent anion, “applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argues that the reference did not teach others.” *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). A fair reading of the reference as a whole clearly discloses that the inks of Suzuki et al. encompass those comprising both modified pigment and salt as presently claimed.

Applicant also argues that Suzuki et al. teach against the presently claimed combination of modified pigment and polyvalent salt in light of the teaching in Suzuki et al. of fixing agent that binds functional group of the pigment when the ink is used with aqueous tracing solution. Given that the fixing agent is identical to the polyvalent salt utilized in the present invention, applicant argues that use of ink comprising modified pigment and polyvalent salt would not be a viable ink since the salt would act as a fixing agent for the ink and cause destabilization of the ink.

However, while the fixing agents disclosed by Suzuki et al. include salts utilized in the present invention, these fixing agents or salts are not utilized in the ink of Suzuki et al. The salts utilized in the ink of Suzuki et al. are different than the disclosed fixing agent of Suzuki et al. There is no evidence that the salts having polyvalent anions disclosed by Suzuki et al. would in

fact function in the same manner as fixing agents present in aqueous tracing solution that is used in conjunction with the ink especially given that Suzuki et al. also disclose the use of polymer capable of coordinating with the polyvalent salt. Given that Suzuki et al. itself disclose ink comprising both modified pigment and salt having polyvalent anion, it is clear that modified pigment and polyvalent salt can both be successfully used together in an ink composition without destabilization occurring.

Applicant further notes that Suzuki et al. states that “increased amount[s] of Mg and Fe in the ink promotes coagulation” and that it is therefore preferable that the amount of Mg and Fe in the ink be extremely low and that these same polyvalent metal salts are listed as examples of fixing agents. However, there is no disclosure in Suzuki et al. that the fixing agents are used in the ink. Further, these fixing agents are not the same as salt having polyvalent anion utilized by Suzuki et al. in the ink. There is no evidence that the salts having polyvalent anion would will negatively affect the ink of Suzuki et al. and cause destabilization.

With respect to the combination of WO 96/18695 in view of Lin (U.S. 5,997,623), applicant argues that there is no motivation to combine these references given that there is no disclosure in WO 96/18695 or Lin of polyvalent salt and modified pigment as presently claimed given that there is no disclosure in WO 96/18695 of salt having polyvalent ion and no disclosure in Lin of modified pigment having functional group that is anionic or cationic and that should or could be used with salt comprising polyvalent cation or salt comprising polyvalent anion, respectively, as presently claimed.

It is agreed that there is no disclosure in WO 96/18695 of salt having polyvalent ion. This is why WO 96/18695 is used in combination with Lin, which is also drawn to ink jet inks, and discloses the use of salt having polyvalent cation and further disclose that the motivation for using such salt is to produce ink with desired conductivity and to produce ink which exhibits reduced intercolor bleed.

It is noted, however, that col.10, lines 39-48 of Lin does disclose that modified pigment, i.e. pigments having anionic functional groups, are utilized in the ink. In light of this and given that Lin discloses using salt having polyvalent ion in ink jet inks in order to produce ink with desired conductivity and to produce ink which exhibits reduced intercolor bleed, it would have been obvious to one of ordinary skill in the art, absent evidence to the contrary, to use the salt in the ink of WO 96/18695.

Applicant argues that Lin discloses that salts having polyvalent ions are used in ink that is printed next to a pigment based ink that is stabilized by an anionic dispersant wherein there is interaction between the ink, polyvalent ion, and anionic dispersant in the second ink. Therefore, applicant argues that one would not use a salt having a polyvalent ion in an ink having modified pigment since it is expected that destabilization would occur. However, it is significant to note that col.15, lines 5-16 of Lin discloses that the salts are used in ink jet ink comprising pigments with anionic functional groups on the surface in order to reduce intercolor bleed. Thus, Lin does disclose that inks can contain combination of modified pigment and salt having polyvalent ion.

Therefore, given that Lin utilizes combination of modified pigment having anionic functional group and salt having polyvalent ion, it would have been obvious to one of ordinary

skill in the art to also use such salt in the ink of WO 96/18695 which comprises modified pigment.

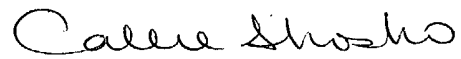
With respect to Zhu (U.S. 5,889,083) in view of WO 96/18695, applicant argues that there is no motivation to combine the references given that it is well known in the art that salts would destabilize ionically stabilized pigments.

However, it is noted that Zhu discloses that “any” pigment can be use in the ink. Further, WO 96/18695, which is also drawn to ink jet inks, disclose the use of modified pigments identical to that presently claimed and further disclose that it is advantageous to use modified pigments instead of conventional pigments, as disclosed by Zhu, given that modified pigments are easier to disperse and do not require the use of dispersant. Thus, there is proper motivation to combine Zhu and WO 96/18695. Further, while applicant states that one of ordinary skill in the art would not combine modified pigment with polyvalent salt due to destabilization occurring, given that Zhu also discloses the use of polymer which is capable of coordinating with the salt having polyvalent cation, it is not clear that one of ordinary skill in the art would have recognized that addition of modified pigment would destabilize the ink of Zhu. There is no evidence that such destabilization would occur in Zhu.

Given that Zhu discloses that any pigment can be used, given that WO 96/18695 is drawn to the same field of endeavor as Zhu and discloses proper motivation for combining the references, and given that there is no evidence that the presence of salt having polyvalent ion would destabilize the ink, it is the examiner’s position that the combination of Zhu with WO 96/18695 is proper.

Art Unit: 1714

NOTE: Given that Yu et al. is no longer applicable against the present claims, it is noted that claims 3 and 29 are now objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
9/23/04